THE PRESENT STATUS OF RECLAMATION IN THE SAND AND GRAVEL INDUSTRY

by

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When asked by the staff of the National Sand and Gravel Association to address you on the subject of reclamation, my first reaction was to decline. It seemed to me that this subject had been amply covered many times by my predecessors and by others. The subject had, so to speak, been "beaten to death."

Closer inspection, however, showed that re-examination may be timely. It is surprising how rapidly time passes and how key personnel change. It is also surprising how rapidly our industry has changed. Thus, when my predecessor, F. D. Coppock, addressed this group on the subject of reclamation in 1955, our industry was producing at a rate of approximately 500 million tons per year. Today, it is producing at nearly double that rate, which means that we are using land twice as fast and our reclamation requirement is twice as big.

One of the first things that must be done in any discussion on this subject is to define exactly what we mean by reclamation as applied to the sand and gravel industry. Do we mean restoring the land to its prior condition? Do we imply that the resulting land must always look like a well-groomed park?

According to Webster, the word "reclamation," as applied to land is defined as "the act or process of restoring to cultivation or use." I should like to emphasize the words "or use" since this shows that reclamation can be accomplished by the preparing of land for a useful purpose, and this is not necessarily limited to cultivation, parks, or attempting the impossible task of restoring the land to its original condition.

Another possible misconception I would like to correct is that this resulting use, after reclamation, is inferior to the original condition of the land. Very often this is not the case, and the end use may be more desirable than the virgin ground. Thus, in many of our crowded metropolitan areas a hole in the ground is worth more, economically and socially, than the original solid terrain. In our industry we have also seen cases where marginal flood land was, as a by-product of the interim sand and gravel excavation, converted to usable lakes and building sites. There are cases where solid level industrial land has resulted from the excavation of uneven marginal acres. There are cases where flood channels and levees have been constructed at no cost to the public. There are instances where rivers and harbors have been improved. These and many other situations show that our reclamation produces end results that often are superior to the conditions in which the land originally existed.

Having thus defined the terms, we can turn to an analysis of reclamation today in the sand and gravel industry. How much reclamation is being accomplished? What are the reasons why reclamation is performed? What are the trends and what do they indicate about the future course?

I should like initially to examine the various reasons why reclamation presently is being performed. If we can identify the various reasons for carrying on a reclamation program, we then can more reliably evaluate the present status of such program and evaluate the changes which may be expected in the future.

Amateur or professional psychologists will caution you that people's motivations for certain actions often are very complex, and result from a number of factors and background influences - so also in the motivation behind reclamation. A combination of factors is involved, and these will vary from one location to another and from one company to another. Nevertheless, it seems to me that the motivation behind sand and gravel reclamation can be broken down into four main factors. They, in various combinations, lie behind the reclamation work done in the past and likely to be done in the future.

The first main reason why an individual or corporation may perform reclamation is an intangible one, namely the sense of stewardship or public duty. This is the feeling that the good earth, as the astronauts recently called it, should not have portions of it desecrated as a result of our short presence here. This is the feeling that our neighbor's enjoyment of his property should not be unreasonably affected by what we do on ours. This is the feeling that ownership of land is not quite absolute, but carries with it certain obligations regarding how it may be used or left. This sense of stewardship has been, and still is, quite strong in certain individuals and in certain corporations. It must have been the primary reason for much of the pioneering reclamation performed in our industry when other factors I will mention were not yet present.

The next question is whether this sense of public duty or stewardship is becoming stronger in the sand and gravel industry. Is it gaining in importance or lessening? In all candor I must answer that I do not see any particular ground swell or increase in reclamation due to this factor alone. It still is a major consideration for some individuals and companies. Many operators, however, do not receive on this frequency. They may insist in living in a nice neighborhood and in a nice house, but they apply an entirely different set of values to their mining activities. And while this concern for our environment may not have seized too may sand and gravel operators, it is of growing concern to a sizable segment of the American public. This solicitude of the public for our environment has already resulted in Federal legislation on air and water pollution. Any perceptive individual in our industry would be foolish if he did not recognize that there is a growing public intolerance for some aspects of our mining activities.

The second main reason why reclamation may be performed in our industry is that of economics. Simply stated, there is money to be made as a result of reclamation. This aspect has grown rapidly in importance, and now holds the greatest promise for our industry and for the public.

As the pressure for land increases, particularly near population centers where many of our operations are located, profitable uses for reclaimed excavations have developed. These range from parks to lake-front housing developments to office buildings to industrial sites to public water sources to refuse disposal sites and to numerous other potential uses. Many real estate developers now spend large sums creating artificial lakes that are not as attractive as the ones sometimes produced in the course of our excavations. The "hole in the ground" as formerly stated, may now be more valuable than the terrain in its original state.

This economic aspect is growing more rapidly than you may realize. In his address in 1955, Mr. Coppock proudly pointed out how we were selling lake-front lots for $125.00 per front foot, a sum we then considered to be quite remunerative. Today, the last of these reclaimed lots are being sold for use as office building sites - on the basis of over $500.00 per front foot. If we can develop added locations, I wonder what they will bring five or ten years from now?

It has been our experience that the presence of water greatly enhances the economic opportunities for reclamation, since water can be a unique feature for commercial and industrial as well as residential uses. Any sand and gravel operator, even in rural areas, who can produce water areas should be able to develop a reclamation plan that will be profitable to him in the long run.

A leading real estate developer recently viewed one of our lakes where we had done a commendable job of reclaiming the perimeter for residential use, but where the entire center had been excavated and

and converted into a lake. "Criminal," he said, "You should have left some added land areas. You could never have made enough money on the sand and gravel excavation to offset the real estate loss." These are shocking words for one who strives to recover every ton of available deposit, but perhaps we had better give this aspect of our business even greater emphasis.

This growing economic potential should not be overlooked. Even if a profitable use is not always here today, what will be the situation in five or ten years when some of your current operations are completed? This is a language you understand. The beauty of this economic aspect, from the public's standpoint, is that it is automatic and self-regulating. Where this factor is present, it is no more necessary to have legislation requiring reclamation than it was necessary to have legislation requiring that the excavation be made in the first place. I say again, the economic aspect of sand and gravel reclamation today holds the greatest promise for the industry and for the public.

The third main factor influencing sand and gravel reclamation is that of zoning. As zoning is increasing in its effect on our operations, so is the reclamation which is done to alleviate zoning's pinch. Now when I mention zoning as a problem I always get a few tolerant smiles from those who are not yet affected. To me these individuals are similar to the butterflies in Rudyard Kipling's verse which says:

> "The toad beneath the harrow knows
> Exactly where each tooth-point goes;
> The butterfly upon the road
> Preaches contentment to the toad."

As a well-spiked toad who is painfully aware of zoning's tooth-points, I can only hope that the butterflies can remain so always, but such may not be the case. Speaking from personal experience in three Midwestern states, we have had a rapid expansion of zoning in recent years. Twenty years ago relatively few of our operations were in areas where zoning was in effect. Today, nearly all of these same operations are in areas covered by zoning, usually under township or county jurisdiction. The approval of local zoning boards is required in order to mine added deposits, and many times this proves to be most difficult or impossible to secure. As a result of this pressure, we often have been forced to agree to stringent reclamation requirements whether they were in the zoning statute or not.

The fourth main factor requiring reclamation in our industry is that of legislation, namely that some law says it must be done. A growing number of local zoning ordinances now contain their own reclamation and bonding requirements. The provisions of these ordinances are as varied as the multitudinous units exercising local zoning jurisdiction. Sometimes they are framed by competent people who recognize the need for our industry and contain reasonable operating and reclamation requirements. Sometimes they are framed by people who simply are not competent.

And sometimes they are framed by individuals or groups whose real purpose is to prohibit completely our operations, with this being accomplished by operating or reclamation requirements which may sound possible to the layman but with which in practice no commercial operator could comply. Widespread adoption of this latter type of zoning ordinance would doom our industry.

Legislation requiring sand and gravel reclamation may also appear at the state level. By latest count, 15 states have some form of mining reclamation statute, and in 7 of them the law is applicable to sand and gravel as well as to most other minerals. From conversations with people from different parts of the country, it appears that a growing number of states are considering broad surface mining laws. I might add, however, that a substantial number of them feel that it is both unnecessary and impractical to include the widely scattered sand and gravel industry.

Finally, we have pending Federal legislation on this subject. Introduced in the last Congress of the United States was Senate Bill 3132 which would place the sand and gravel industry, as well as all other types of surface mining, under Federal control. This bill was not enacted, but it seems certain that it will be reintroduced again this year. Thus, we have come a long way down the road when the Federal Government will attempt, directly or via its requirements on the states, to control the operations and reclamation of over 8,000 individual sand and gravel operations scattered throughout almost every county in the 50 states.

While details on this Federal bill have been furnished you by our Association, a brief review of its provisions may be helpful. As in some similar legislation, this proposed bill contains a feature which would allow the states to control and regulate the industry instead of the Federal Government. However, the state plan must be submitted to the Federal Government and approved by it. Federal approval may also be withdrawn at any time. Thus, those who feel that the state plan would supersede the Federal regulation are in error. The states would be permitted to carry out the administration, but always under a plan which must be approved by the U. S. Secretary of the Interior. The basis for his approval or denial of a plan is most indistinct. Annual permits and bonding would be mandatory. Criminal as well as civil penalties might be imposed, the harshest form of regulation. An operator would always live under the threat that he might suddenly be shut down and appeals from arbitrary or unreasonable decisions would be very difficult.

There is a basic dilemma facing anyone who would attempt to legislate reclamation in the mining industry. The first horn the would-be drafter of legislation on this subject must face is the extreme variation in the mining industry. Even in sand and gravel, the conditions in Maine differ widely from those in California. Revegetation is easy in some locations and impossible in others where nature has not even been able to provide vegetation now.

When you then include all other types of mining, from stone quarries to iron ore to coal to copper mining, you reach the impossibility of placing in the legislation the exact description of what must be done to comply with the Reclamation Law. You then are forced to face the second horn of this dilemma, that the legislation must be broad and general and the decision of exactly what must be done under all the varying circumstances is left to some agency or individual. You then vest in this agency or individual a great deal of power, since his rulings may mean life and death to individual companies or even to industries. While the motives and abilities of those presently administering these programs may be the highest, there always is the inherent danger in assigning such power. As British historian, Lord Acton, said nearly a century ago, "Power tends to corrupt, and abolute power corrupts absolutely."

I certainly am not an authority on what level of government, if any, properly should exercise control over sand and gravel reclamation. If they proposed Federal bill were enacted, however, it seems to me that you might have the impossible situation of three different government agencies simultaneously asserting jurisdiction on the same subject, namely the Federal law, an unapproved state law, and local zoning laws. Conceivably each could have differing bonding and reclamation requirements. With which would we be forced to comply? The easiest one? The hardest one? All of them? I personally am more concerned about the mechanics and administration of these possible laws than I am about doing the actual reclamation work.

We now have reviewed four factors affecting reclamation in our industry. Three of them, namely economic, zoning and legislative factors, are changing rapidly in the direction that should cause reclamation to be accomplished. The fourth factor, namely that of public stewardship, may not be growing too strongly within our industry, but it certainly is growing in the public sector and is an item to be considered seriously. With this collection of rapidly changing factors, how is our industry responding?

In the collective sense you have the response as shown by our National Sand and Gravel Association. In this respect I feel we merit high praise. This Association has done everything possible to present the problem to its members and to assist them in its solution. Prophetic speeches on this subject were heard before this Association several decades ago. Then in 1963 our Association produced a report written by Kenneth L. Schellie and David A. Rogier entitled, "Site Utilization and Rehabilitation Practices for Sand and Gravel Operations." This is an excellent manual and contains much information that is practical to the average sand and gravel operator. It gives detailed information on all the various methods of rehabilitation. It shows a large number of possible uses for excavated sand and gravel sites. You should have copies of this excellent report in the hands of all your key operating executives.

Since 1963 the National Sand and Gravel Association also has sponsored a research project on the subject of reclamation at the University of Illinois. Four research reports have resulted which have received widespread acclaim. A fifth research report dealing with the recreational end uses of sand and gravel sites is scheduled for completion in June 1970.

Under auspices of our Association, reclamation seminars are scheduled this year at several locations throughout the country. Two different seminars are proposed, one for top level executives and one for operating personnel. These seminars are for the purpose of enabling individual operators to do a better and more efficient job on this subject.

As a final item our Association has cooperated with the Interior and Agriculture Departments of the Federal Government in the preparation of recent publications where the various aspects of reclamation are presented. Thus, I believe this record demonstrates that our National Association has recognized the increasing problem of reclamation and has done everything possible to assist its members in performing this necessary work.

Before leaving the aspect of our Association's work, I should like to recognize and pay tribute to the efforts of two men who have played major roles throughout the years. Wm. Edward Hole, Chairman of American Aggregates Corporation, for many years was a director of this Association and for much of this period was Chairman of the Zoning, Land Rehabilitation and Stream Pollution Committee. It was under his leadership that the pending problems of zoning were foreseen and the role of reclamation identified as an answer to these problems. Secondly, E.K. Davison of Pittsburgh not only has been a director of this Association for over 20 years and President in 1960 and 1961, but Ed also has been Chairman of the Public Relations Committee since its inception in 1955. It is under this Committee that much of our Association's work has been accomplished. We all are indebted to these two gentlemen for their untiring efforts in our behalf.

Turning now to the individual operators and their plants, what has been their response to the four changing factors affecting reclamation? Exactly how much reclamation work is being accomplished in our industry? Are we gaining or losing?

I had hoped that the most recent Land Use Survey conducted by the National Sand and Gravel Association would give a clearcut answer, but this is not the case. This latest survey shows that, for those responding, reclamation was completed on land areas equal to 52% of the acres dug in the same year. Reclamation work was reported still in progress on additional land areas equal to 68% of the acres reported dug in the same year. However, a discrepancy has been discovered in how individual operators considered the water areas that were produced. In rechecking our own company's returns I find that water areas were either placed in

the "working on" category or were ignored altogether since the questions were felt to relate only to final land surfaces. When you consider that approximately 80% of our acres dug in Ohio result in lakes, you can see that we were creating the erroneous impression that a substantial backlog of unreclaimed land was being built up, which certainly is not the case since no further work is required on these acres of lakes. Perhaps this matter can be clarified or treated uniformly in future surveys. Meanwhile, it appears safe to say that the most recent survey understates the percentage of land on which reclamation was completed and that the total of land reclaimed plus that being worked on approximates the acres dug in the same year.

In previous talks on this subject I have said that any sand and gravel operation will fall into one of three categories as far as its reclamation work is concerned. You might wish to evaluate mentally into which category your operations would fall. The first of these is the "don't give a damn" operation. In this the operator may feel that he owns the land and no one is going to tell him what he can do with it. He may have owned the land long before zoning came in, and he is not legally required to do anything. He is in the gravel business, not the beautification business. While most of us probably originated in this category, fortunately most have now left it.

The second major type of operation is that where reclamation is performed as an afterthought. Through the years the operation is carried on with no thought of reclamation. After the basic sand and gravel excavations have been completed, however, the scene is then viewed and reclamation work performed. Actually, much fine work has resulted from this type of operation. It certainly is much better than nothing at all. My only criticism would be that:

A. It may be more costly than other methods.

B. It may not be as attractive or remunerative as it might have been.

C. The operator and the public must look at it for a long time in its unreclaimed form, and

D. The owners may forego income which could have been derived on an interim basis if the area had been reclaimed as they went along.

A large number of sand and gravel operations probably fall within this second category. As previously stated, I would not want to downgrade this type of reclamation. Much of our corporation's early work would fall within this category. The only feature is that the full potential is not being realized.

The third type of operation is where reclamation is planned in advance and performed concurrently with the basic processing. This is the most

economical method and that which produces the greatest benefits over the long run. As an aside, this principle was identified by Mr. Wm. Edward Hole in a speech before this Association over 15 years ago. This method reasons that waste materials and overburden usually have to be moved in any event. It often costs little more to place them somewhere "on purpose" than it does to place them elsewhere "accidentally." Under this preplanning, you may decide to work the outside edges of the property first in order to allow their gradual reclamation while the heart of the property is operated later. It also may be advantageous to go to the far end of the property to begin operations, then retreating toward the processing plant and reclaiming the area as you go. This may require slightly more investment in roadways or hauling devices, but permits reclamation and utilization of distant areas much sooner than would be the case if you advanced slowly through the same property. It is my hope that the reclamation seminars scheduled for later this year will concentrate on this aspect of preplanning reclamation. It is also my hope that most of our industry's various operations soon will be characterized as falling within this third category.

In order to show its own work and assist the industry in promoting reclamation, American Aggregates Corporation has printed a colored brochure entitled "Project/PARKLANDS." This booklet gives a good idea of the many varied and attractive sites which can be produced as a by-product of sand and gravel operations. Over 10,000 copies of this brochure have been sent to our employees, customers and shareholders, as well as to planners and public officials throughout this nation and Canada. I have some copies available here now, and others can be furnished if you will address a letter to us at our Main Office, Garst Avenue, Greenville, Ohio.

Viewed in perspective, reclamation in the sand and gravel industry is not particularly difficult compared to other types of surface mining. We usually have no problems of undesirable acids or chemicals. Overburden usually is modest compared to the seam of mineral mined below. The number of acres mined per year at a particular plant is usually relatively small, though the combined acreage across the nation does become of relatively large significance. Where water can be produced, the surrounding land value is enhanced and the water surface requires no further expenditure. Earth moving equipment often is available a portion of the season which can perform some of the reclamation work at a reduced cost. Plants often are located near population centers where land values greatly facilitate the economic reuse of the sites. To summarize, our job of reclamation is not nearly as difficult as it would be if we were in some of our sister mining industries.

I have attempted in these few minutes to show you how the several factors affecting reclamation are changing rapidly, and how our industry is responding to them. Viewed from year to year these changes may be difficult to detect, but they certainly are evident when examined over a longer period of time. I sincerely hope that all of you will agree with me that reclamation of sand and gravel sites today is mandatory

and must be accomplished promptly at all operations. If this is done, we may yet be able to escape the pending legislation which would, at best, make all our operations much more difficult. We also would be able to face the public and future generations saying, "We not only provided our society with an essential raw material, but we left behind us a terrain that was still useful and still productive. We recognized our obligations and were faithful stewards of those lands entrusted to us."